



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

DEC 19 2008

REPLY TO THE ATTENTION OF:

WQ-16J

Richard Nelson, Field Supervisor  
U.S. Fish and Wildlife Service  
Rock Island Field Office  
4469 48<sup>th</sup> Avenue Court  
Rock Island, Illinois 61201

Dear Mr. Nelson:

Thank you for your letter of August 29, 2008, in response to our June 6, 2008, request for species information needed for our consultation of Illinois' revised water quality standard (WQS) for dissolved oxygen and a site-specific standard for the Lower Des Plaines River for total dissolved solids (TDS). For some unknown reason, I did not receive the letter until December 8, 2008, even though it was postmarked September 2, 2008. This may have been the result of my relocation due to a temporary re-assignment that I completed in late October. I apologize for this delayed response and explain below the current status of the above mentioned WQS revisions from Illinois and a new submission that we just received regarding sulfate and TDS.

On December 18, 2008, U.S. Environmental Protection Agency approved Illinois' revised WQS for dissolved oxygen subject to consultation under section 7(a)(2) of the Endangered Species Act (ESA). Pursuant to the 2001 Memorandum of Agreement between the EPA and the Services (66 Federal Register 11202, February 22, 2001), the Region deferred to the national consultation that has been initiated by EPA Headquarters and the Services on EPA's published water quality criteria, including dissolved oxygen, for the protection of aquatic life. Should this national consultation identify information that supports a conclusion that dissolved oxygen levels at the limits being approved for Illinois are likely to jeopardize the continued existence of any listed species, or result in the destruction or adverse modification of designated critical habitat of such species, the Region retains the full range of options available under section 303(c) of the Clean Water Act (CWA) for ensuring standards that protect aquatic life including the ability to revisit and revise, as necessary, our approval decision.

On October 30, 2008, EPA approved the site-specific WQS for TDS (Ill. Adm. Code 303.445) for the Lower Des Plaines River. EPA determined that this action would have no effect on listed species, principally based on the fact that no listed threatened or endangered species are found in the action area. A draft Biological Evaluation was sent to the Chicago Ecological Services Field Office who concurred with this determination in a letter dated October 31, 2008. We acknowledge and understand your request to consider two candidate mussel species that historically occurred in this area, but do not plan on re-opening this case for the following reasons.

- The approved action was a site-specific adjustment to an old Illinois TDS standard that was necessary for an ExxonMobil refinery to comply with a 2005 consent decree under the Clean Air Act. ExxonMobil was required to reduce air emissions from its Joliet refinery and installed wet gas scrubbers that resulted in increased concentrations of sodium sulfate (one of the components of TDS) in the wastewater discharge from the refinery into the Lower Des Plaines River. The site-specific standard only applies during the winter months, thus not affecting the reproduction and early life stages of most aquatic species, since the primary contributor of TDS in the action area is the runoff of salt applied to roads in the winter.
- When Illinois Environmental Protection Agency (Illinois EPA) adopted their current state-wide TDS standard in the early 1970's, limited data were available and a conservative approach was taken. Since that time, however, several researchers have investigated TDS and various ionic constituents and have concluded that a substantially higher TDS standard is warranted<sup>1</sup>. These investigations indicate that the current TDS standard of 1,000 mg/L is not necessary nor particularly meaningful to achieve the goal of protecting aquatic life, and concluded that individual ions rather than TDS criteria are more appropriate to characterize toxicity related to dissolved solids.
- Illinois EPA recently submitted final WQS rule revisions (Ill. Adm. Code Parts 302, 309, 405, 406, and 407) that utilized the above mentioned research and established a standard for sulfate and repealed the existing standard for TDS. The submission of these rules was received by EPA on December 8, 2008. This rule revision will remove the standard for TDS from Illinois' regulations, thus making the recently approved site-specific standard moot and no longer necessary. As discussed further below, EPA will be consulting with U.S. Fish and Wildlife Service (FWS) on the new standard for sulfate that, along with an existing chloride standard, will effectively replace the old TDS standard.

On December 9, 2008, EPA received a submission from Illinois EPA of a revision to their WQS rules pertaining to sulfate and TDS for our approval. The Region has been working closely with the Illinois EPA as these rules were developed and anticipates that they will be approvable under section 303(c) of the CWA. In addition, Illinois' determination of these criteria included toxicity data on unionid mussels which we anticipate will show that these new criteria will not adversely affect listed species. As with the other recent Illinois WQS revision for dissolved oxygen, the revised WQS for sulfate applies to all waterbodies within the state and thus has the possibility to impact all aquatic and aquatic-dependent listed species in Illinois.

By this letter we request the initiation of informal consultation on our potential approval of Illinois' sulfate WQS. In lieu of sending a separate letter requesting a species list for this consultation, we trust it will be agreeable to accept your August 29, 2008, letter that provided the current and relevant species information. The excellent species accounts provided in your letter will be used as we proceed with the development of our Biological Evaluation. Sulfate is not included in the national consultation since EPA has not developed a national criteria

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<sup>1</sup> For example, see Soucek, D.J. (2004). *Effects of Hardness, Chloride and Acclimation on the Acute Toxicity of Sulfate to Freshwater Invertebrates*. Final Report submitted to the Illinois EPA and the Illinois Coal Association, January 9, 2004. 17pp.

recommendation under section 304(a) of the CWA for this chemical. Consultation between the Region and the FWS will therefore be necessary.

We will keep you informed of our progress and may contact you for assistance as we proceed with the development of the Biological Evaluation. Meanwhile, please do not hesitate to contact me or my staff. I can be reached at (312) 886-6758, and Eric Brossman, the lead contact for our review of the Illinois sulfate WQS revision, can be reached at (312) 886-3894 or [brossman.eric@epa.gov](mailto:brossman.eric@epa.gov).

Sincerely,

A handwritten signature in cursive script, appearing to read "Linda Holst".

Linda Holst, Chief  
Water Quality Branch

cc: John Rogner, USFWS, Chicago Ecological Services Field Office